

CLAIMS

What is claimed is:

1. A dishwasher having a washing chamber, comprising:
an air generator to heat air of the washing chamber.
2. The dishwasher according to claim 1, wherein the air generator comprises:
a heater to heat the air of the washing chamber.
3. The dishwasher according to claim 2, wherein the heater is not immersed in
water fed into the washing chamber.
4. The dishwasher according to claim 1, wherein the air generator further
comprises:
a fan to circulate the air flowing around the heater.
5. The dishwasher according to claim 1, wherein the air generator comprises:
a blowpipe;
a fan provided at an open end of the blowpipe to circulate the air from the blowpipe into
the washing chamber; and
a heater provided in the blowpipe to heat the air flowing through the blowpipe.
6. The dishwasher according to claim 5, further comprising:
a door to open or to close the washing chamber,
wherein the heater and the fan are provided in the door, to heat and circulate the air of
the washing chamber.
7. The dishwasher according to claim 6, further comprising:
an air inlet port disposed with the door; and

a blast port at a surface of the door facing the washing chamber, the air inlet port and the blast port communicating with each other through the blowpipe.

8. The dishwasher according to claim 6, wherein the heater is provided at an intermediate position inside the blowpipe.

9. The dishwasher according to claim 5, further comprising:
a cabinet to define an external appearance of the dishwasher,
wherein the heater and the fan are provided in the cabinet.

10. The dishwasher according to claim 5, wherein the blowpipe comprises:
an air inlet port provided at a position facing the washing chamber or facing an outside of the dishwasher; and
a blast port provided at a position facing the washing chamber,
wherein the air inlet port and the blast port communicate with each other through the blowpipe.

11. The dishwasher according to claim 10, wherein the fan sucks atmospheric air into the washing chamber or circulates the air of the washing chamber.

12. The dishwasher according to claim 1, wherein the air generator comprises:
a casing to define a space therein, with an opening formed at a surface of the casing;
a fan provided in the casing to cause the air to circulate through the opening of the casing; and
a heater provided at a position around the fan to heat the air flowing around the fan.

13. The dishwasher according to claim 12, wherein the fan is a centrifugal impeller which causes the air to flow in a direction perpendicular to a rotating axis of the centrifugal impeller.

14. The dishwasher according to claim 12, wherein the opening of the casing faces the washing chamber, and the fan is provided in the casing such that a rotating plane of the fan faces the washing chamber.

15. The dishwasher according to claim 12, wherein the air generator further comprises:

a plate having a plurality of vent holes installed at the opening of the casing so that the air flows between an interior of the washing chamber and the space of the casing through a respective one of the plurality of vent holes of the plate.

16. The dishwasher according to claim 15, wherein a part of water fed into the washing chamber flows into the space of the casing through respective ones of the plurality of vent holes of the plate.

17. The dishwasher as set forth in claim 13, wherein a part of the fan projects from the casing to mount to an inner surface of the door.

18. The dishwasher as set forth in claim 15, wherein the plate comprises:
a water discharging port provided at a lower portion of the plate such that the heated water discharges from the casing into the washing chamber through the water discharging port.

19. The dishwasher as set forth in claim 18, wherein, when the air generator is turned on and the water is fed into the washing chamber, the air and the water are heated, simultaneously.

20. A dishwasher with a washing chamber, comprising:
an air generator heating and circulating air in the washing chamber.

21. The dishwasher as set forth in claim 20, wherein the air generator comprises:
a blowpipe circulating the air in the washing chamber; and

a heater disposed in the blowpipe to heat the air in the washing chamber circulated through the blowpipe.

22. The dishwasher as set forth in claim 20, wherein the air generator further comprises:

a fan to suck the air in the washing chamber to one side of the blowpipe.

23. The dishwasher as set forth in claim 20, further comprising:
an input unit to set a temperature of the air in the dishwasher,
a temperature detecting unit to detect the temperature of the air of the washing chamber;
and
a control unit to control the detected temperature according to the set temperature.

24. The dishwasher as set forth in claim 20, wherein the air generator comprises:
a blowpipe;
a fan disposed at one opening of the blowpipe to circulate the air through the blowpipe and within the washing chamber; and
a heater disposed in the blowpipe to heat the air circulated through the blowpipe.

25. The dishwasher as set forth in claim 24, further comprising:
a door selectively closing the washing chamber, wherein the heater and the fan are disposed in the door to heat and to circulate air in the washing chamber, respectively.

26. The dishwasher as set forth in claim 25, wherein the door further comprises:
an air inlet and a blast port disposed in a surface of the door facing the washing chamber, and the air inlet and the blast port communicating with each other through the blowpipe.

27. The dishwasher as set forth in claim 21, wherein the heater is disposed in a middle portion of the blowpipe.

28. The dishwasher as set forth in claim 24, wherein the heater and the fan are disposed at positions outside of the washing chamber.

29. The dishwasher as set forth in claim 24, further comprising:
a cabinet defining an external appearance of the dishwasher, and
wherein the heater and the fan are disposed at positions inside of the cabinet of the dishwasher.

30. The dishwasher as set forth in claim 24, wherein the blowpipe comprises:
a first air inlet disposed facing one of the washing chamber and an outside of the dishwasher; and
a blast port disposed facing the washing chamber, the first air inlet communicating with the blast port through the blowpipe.

31. The dishwasher as set forth in claim 30, wherein the blowpipe comprises:
a second air inlet disposed facing another one of the washing chamber and an outside of the dishwasher such that the air from both the washing chamber and air from outside of the dishwasher are sucked into the first and second air inlets, respectively, and mixed in the blowpipe.

32. The dishwasher as set forth in claim 30, wherein the fan either sucks external air into the washing chamber or recirculates air from within the washing chamber.

33. The dishwasher as set forth in claim 24, wherein the heater is not immersed in the water supplied to the washing chamber.

34. A method of controlling a dishwasher having a washing chamber, comprising:
heating air supplied to the washing chamber; and
supplying water into the washing chamber and generating hot water through a heat exchange between the heated air and the supplied water.

35. The method as set forth in claim 34, further comprising:
circulating the air through a pipe and within the washing chamber, the heating of the air occurring as the air is circulated through the pipe.

36. The method as set forth in claim 34, further comprising:
drying the dishes by only the heated air from the heating of the air.

37. A method of controlling a dishwasher having a washing chamber, comprising:
heating air in the washing chamber;
supplying water into the washing chamber;
circulating the heated air such that a heat exchange between the heated air and the supplied water occurs; and
washing dishes using the heated water.

38. A dishwasher with a washing chamber, comprising:
an air generator heating air in the washing chamber to exchange heat between the heated air and water supplied to the washing chamber so as to heat the water supplied thereto, the air having a specific heat lower than that of the water.

39. A method of controlling a dishwasher having a washing chamber, comprising:
heating air supplied to the washing chamber;
supplying water into the washing chamber; and
circulating the heated air such that a heat exchange between the heated air and the supplied water occurs, the air having a specific heat lower than that of the water.

40. A method of controlling a dishwasher having a washing chamber, comprising:
heating air supplied to the washing chamber; and
drying dishes in the washing chamber by only using the heated air.

41. A method of controlling a dishwasher having a washing chamber, comprising:
heating air supplied to the washing chamber using a heater; and

supplying water into the washing chamber and generating hot water through a heat exchange between the heated air and the supplied water, wherein the heater is not submerged in the water supplied to the washing chamber.

42. A dishwasher with a washing chamber, comprising:
an air generator heating air in the washing chamber; and
a water supply unit supplying water into the washing chamber such that the air generator is not submerged in the water supplied to the washing chamber.

43. A method of controlling a dishwasher having a washing chamber, comprising:
heating air supplied to the washing chamber to indirectly heat water used during a dishwashing operation.